1. (currently amended) A method for producing a spectrogram from a plurality of two or three dimensional ultrasound images depicting motion comprising:

acquiring a plurality of colorflow ultrasound images comprising motion data where motion is present in the imaged region;

delineating a region of interest (ROI) in one of the images, the ROI comprising a plurality of spatially discrete pixels of motion data;

forming histograms of the motion data of the spatially discrete pixels of the ROI in a plurality of images containing the pixel information over a plurality of defined temporal intervals;

mapping the histograms of a plurality of images to a plurality of temporally discrete ~~display elements~~lines; and

displaying the ~~display elements~~lines as a spectrogram for the ROI.

2. (currently amended) The method of Claim 1, ~~wherein the ultrasound images comprise colorflow images. and~~ wherein the defined temporal intervals comprise frame rate intervals.

3. (previously presented) The method of Claim 1, wherein the motion data of the pixels of the ROI comprises at least one of velocity information and Doppler power information.

4. (original) The method of Claim 2, further comprising capturing a sequence of colorflow images in an image buffer.

5. (previously presented) The method of Claim 1, wherein displaying further comprises displaying a two or three dimensional image on which an ROI is delineated, wherein the spectrogram is concurrently displayed.

6. (currently amended) A method for displaying the distribution of a motion characteristic occurring at a region of interest in a two or three dimensional ultrasound image of the body comprising:

acquiring a sequence of spatially dimensioned colorflow ultrasound images in which a motion characteristic is displayed by motion data;

delineating a region of interest (ROI) in one of the images where motion data is present in a plurality of spatially different points in the image;

processing the motion data from the image points of the delineated ROI of a plurality of images to determine the distribution of a motion characteristic as a function of the time of each image; and

displaying the distribution of the motion characteristics of a plurality of images as a plurality of columnar display ~~element~~ lines ~~in~~ of a spectral display as a function of time.

7. (canceled)

8. (original) The method of Claim 7, wherein the motion characteristic comprises blood flow velocity.

9. (previously presented) The method of Claim 8, wherein delineating further comprises delineating a plurality of spatially different pixels in one of the images.

10. (previously presented) The method of Claim 9, wherein processing further comprises processing the motion data of pixels spatially corresponding to the ROI in each of the color Doppler images.

11. (previously presented) The method of Claim 10, wherein processing further comprises producing a histogram of the motion data of the ROI of each color Doppler image.

12. (currently amended) The method of Claim 11, wherein displaying further comprises mapping histogram data to a plurality of temporal display ~~elements~~lines, wherein a spectral display of the temporal display ~~elements~~ lines illustrates the distribution of the motion characteristic as a function of time.

13. (original) The method of Claim 7, wherein the motion characteristic comprises blood flow velocity derivatives in the temporal or spatial domain.

14. (original) The method of Claim 7, wherein the motion characteristic comprises tissue motion velocity or its derivatives in the temporal or spatial domain.

15. (currently amended) An ultrasonic diagnostic imaging system which provides motion information concerning a location in the body comprising:

an ultrasound probe which transmits ultrasonic energy and receives ultrasonic echo signals in response;

a beamformer coupled to the probe which forms coherent echo signals from spatial locations in the body;

a motion processor responsive to the spatial echo signals which produces image data depicting motion;

a display responsive to the image data which ~~produces~~ displays two or three dimensional colorflow images depicting motion on a spatial basis;

a user control by which a user can delineate a region of interest in a two or three dimensional colorflow image comprising spatially discrete image points depicting motion;

a motion characteristic processor, responsive to motion information of the image points depicting motion of the region of interest, and configured to process motion data from a plurality of spatially different pixels in ~~an~~ the image to produce a temporally discrete histogram of velocity values,

wherein the display displays the distribution of a motion characteristic of the histogram ~~in~~ as a line of a spectral display as a function of time for a delineated region of interest.

16. (original) The ultrasonic diagnostic imaging system of Claim 15, wherein the motion processor comprises a Doppler signal processor.

17. (canceled)

18. (canceled)

19. (previously presented) The ultrasonic diagnostic imaging system of Claim 15, wherein the display is operated to concurrently display a two or three dimensional image containing a region of interest and a spectrogram illustrating the velocity variation over time for the region of interest.

20. (original) The ultrasonic diagnostic imaging system of Claim 15, wherein the motion processor comprises one of a phase-domain or a time-domain signal processor.

21. (previously presented) The ultrasonic diagnostic imaging system of Claim 15, wherein the motion characteristic processor comprises a histogram processor.